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1 Intelligent simulation environment for electronics remanufacturing systems

Fidan, I.; Roush, E.M.; Tumkor, S.; Kraft, R.P.;

Electronics Manufacturing Technology Symposium, 2004. IEEE/CPMT/SEMI 29th International , July 14-16, 2004

Pages:160 - 164

[\[Abstract\]](#) [\[PDF Full-Text \(599 KB\)\]](#) **IEEE CNF**

2 Intelligent control of via formation process in MCM-L/D substrates using neural networks

Kim, T.S.; May, G.S.;

Advanced Packaging Materials: Processes, Properties and Interfaces, 1999. Proceedings. International Symposium on , 14-17 March 1999

Pages:106 - 112

[\[Abstract\]](#) [\[PDF Full-Text \(652 KB\)\]](#) **IEEE CNF**

3 Underwater environment restitution through sonar images and swath bathymetry rendering

Daniel, S.; Gueriot, D.; Maillard, E.P.;

Systems, Man, and Cybernetics, 1998. 1998 IEEE International Conference on , Volume: 5 , 11-14 Oct. 1998

Pages:4417 - 4422 vol.5

[\[Abstract\]](#) [\[PDF Full-Text \(716 KB\)\]](#) **IEEE CNF**

4 Fuzzy scheduling problem in self-organizing manufacturing system

Kubota, N.; Fukuda, T.; Kojima, F.;

Knowledge-Based Intelligent Electronic Systems, 1998. Proceedings KES '98. 1998 Second International Conference on , Volume: 2 , 21-23 April 1998

Pages:116 - 125 vol.2

[Abstract] [PDF Full-Text (736 KB)] IEEE CNF

5 On-line process optimization and control using the sequential design of experiments*Sachs, E.; Guo, R.-S.; Ha, S.; Hu, A.;*

VLSI Technology, 1990. Digest of Technical Papers. 1990 Symposium on , 4-7 June 1990

Pages: 99 - 100

[\[Abstract\]](#) [\[PDF Full-Text \(184 KB\)\]](#) **IEEE CNF**

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1 [Magic Functions: In Memoriam: Bernard M. Dwork 1923--1998](#)

Cynthia Dwork, Moni Naor, Omer Reingold, Larry Stockmeyer
November 2003 **Journal of the ACM (JACM)**, Volume 50 Issue 6

Full text available: [pdf\(708.05 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We prove that three apparently unrelated fundamental problems in distributed computing, cryptography, and are essentially the same problem. These three problems and brief descriptions of them follow. (1) *The selective problem*. An adversary is given commitments to a collection of messages, and the adversary can ask for some commitments to be opened. The question is whether seeing the decommitments to these open plaintexts allow t ...

Keywords: Digital signature, Fiat-Shamir methodology, interactive argument, interactive proof system, magic selective decommitment, zero knowledge

2 [The minimum consistent DFA problem cannot be approximated within any polynomial](#)

Leonard Pitt, Manfred K. Warmuth
January 1993 **Journal of the ACM (JACM)**, Volume 40 Issue 1

Full text available: [pdf\(3.44 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The minimum consistent DFA problem is that of finding a DFA with as few states as possible that is consistent sample (a finite collection of words, each labeled as to whether the DFA found should accept or reject). Assume is shown that for any constant k, no polynomial-time algorithm can be guaranteed to find a consistent DFA with states, where ...

Keywords: approximation algorithms, minimization of finite state machines, nonapproximability

3 [Query evaluation techniques for large databases](#)

Goetz Graefe
June 1993 **ACM Computing Surveys (CSUR)**, Volume 25 Issue 2

Full text available: [pdf\(9.37 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [rev](#)

Database management systems will continue to manage large data volumes. Thus, efficient algorithms for manipulating large sets and sequences will be required to provide acceptable performance. The advent of object extensible database systems will not solve this problem. On the contrary, modern data models exacerbate the to manipulate large sets of complex objects as efficiently as today's database systems manipulate simple record processi ...


Keywords: complex query evaluation plans, dynamic query evaluation plans, extensible database systems, i

oriented database systems, operator model of parallelization, parallel algorithms, relational database systems algorithms, sort-hash duality

4 Computing on an anonymous ring

Hagit Attiya, Marc Snir, Manfred K. Warmuth

October 1988 **Journal of the ACM (JACM)**, Volume 35 Issue 4

Full text available:  pdf(2.27 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The computational capabilities of a system of n indistinguishable (anonymous) processors arranged on a ring and asynchronous models of distributed computation are analyzed. A precise characterization of the functions computed in this setting is given. It is shown that any of these functions can be computed in $O(n^2)$ messages asynchronous model. This is also proved to be a lower bound ...

5 Early stopping in Byzantine agreement

Danny Dolev, Ruediger Reischuk, H. Raymond Strong

October 1990 **Journal of the ACM (JACM)**, Volume 37 Issue 4

Full text available:  pdf(1.91 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Two different kinds of Byzantine Agreement for distributed systems with processor faults are defined and compared required when coordinated actions may be performed by each participant at different times. This kind is called Byzantine Agreement (SBA). This paper deals with the number of rounds of message exchange required to reach Agreement of either kind (BA). If an algorithm allows its participants to reach Byzantine agreement in every case

6 Status report of the graphic standards planning committee

Computer Graphics staff

August 1979 **ACM SIGGRAPH Computer Graphics**, Volume 13 Issue 3

Full text available:  pdf(15.01 MB)

Additional Information: [full citation](#), [references](#), [citations](#)

7 Secure and selective dissemination of XML documents

Elisa Bertino, Elena Ferrari

August 2002 **ACM Transactions on Information and System Security (TISSEC)**, Volume 5 Issue 3

Full text available:  pdf(678.34 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


XML (*eXtensible Markup Language*) has emerged as a prevalent standard for document representation and exchange on the Web. It is often the case that XML documents contain information of different sensitivity degrees that must be controlled by (possibly large) user communities. There is thus the need for models and mechanisms enabling the specific enforcement of access control policies for XML documents. Mechanisms are also required enabling a secure and controlled dissemination ...

Keywords: Access control, XML, secure distribution

8 Five paradigm shifts in programming language design and their realization in Viron, a dataflow programming environment

Vaughan Pratt

January 1983 **Proceedings of the 10th ACM SIGACT-SIGPLAN symposium on Principles of programming languages**

Full text available:  pdf(1.14 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

We describe five paradigm shifts in programming language design, some old and some relatively new, namely Serial to Parallel, Partition Types to Predicate Types, Computable to Definable, and Syntactic Consistency to Semantic Consistency. We argue for the adoption of each. We exhibit a programming language, Viron, that capitalizes on these shifts.

9 Complexity of finite-horizon Markov decision process problems

Martin Mundhenk, Judy Goldsmith, Christopher Lusena, Eric Allender

July 2000 **Journal of the ACM (JACM)**, Volume 47 Issue 4

Full text available:  pdf(461.61 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Controlled stochastic systems occur in science engineering, manufacturing, social sciences, and many other systems is modeled as a Markov decision process (MDP) and will run ad infinitum, the optimal control policy can be found in polynomial time using linear programming. The problems considered here assume that the time that the process runs is finite, and based on the size of the input. There are many factors that compound the complexity of computation.

Keywords: Markov decision processes, NP, NPPP, PL, PSPACE, computational complexity, partially observable Markov decision processes, succinct representations

10 The validity of retiming sequential circuits

Vigyan Singhal, Carl Pixley, Richard L. Rudell, Robert K. Brayton

January 1995 **Proceedings of the 32nd ACM/IEEE conference on Design automation**

Full text available:  pdf(155.21 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

11 The iSLIP scheduling algorithm for input-queued switches

Nick McKeown

April 1999 **IEEE/ACM Transactions on Networking (TON)**, Volume 7 Issue 2


Full text available:  pdf(282.39 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: ATM switch, IP router, crossbar switch, input-queueing, scheduling

12 High-speed switch scheduling for local-area networks

Thomas E. Anderson, Susan S. Owicki, James B. Saxe, Charles P. Thacker

November 1993 **ACM Transactions on Computer Systems (TOCS)**, Volume 11 Issue 4

Full text available:  pdf(2.37 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Current technology trends make it possible to build communication networks that can support high-performance computing. This paper describes issues in the design of a prototype switch for an arbitrary topology point-to-point link speeds of up to 1 Gbit/s. The switch deals in fixed-length ATM-style cells, which it can process at a rate of up to 100 million per second. It provides high bandwidth and low latency for datagram traffic. In addition, it supports real-time scheduling.

Keywords: ATM networks, iterative matching, statistical matching, switching scheduling

13 Analysis of the parallel packet switch architecture

Sundar Iyer, Nick W. McKeown

April 2003 **IEEE/ACM Transactions on Networking (TON)**, Volume 11 Issue 2

Full text available:  pdf(619.44 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Our work is motivated by the desire to design packet switches with large aggregate capacity and fast line rate. We consider building a packet switch from multiple lower speed packet switches operating independently and in parallel. In particular, we consider a (perhaps obvious) parallel packet switch (PPS) architecture in which arriving traffic is split over multiple identical lower speed packet switches, switched to the correct output port, then recombined (multiplexed).

Keywords: Clos network, inverse multiplexing, load balancing, output queueing, packet switch

14 A hierarchical access control model for video database systems

Elisa Bertino, Jianping Fan, Elena Ferrari, Mohand-Said Hacid, Ahmed K. Elmagarmid, Xingquan Zhu

April 2003 **ACM Transactions on Information Systems (TOIS)**, Volume 21 Issue 2

Full text available:  pdf(6.27 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Content-based video database access control is becoming very important, but it depends on the progress of video database technology.

related research issues: (a) efficient video analysis for supporting semantic visual concept representation; (b) database indexing structure; (c) the development of suitable video database models; and (d) the development of models tailored to the characteristics of video data. In this paper, we propose a novel approach to support multimedia database systems.

Keywords: Video database models, access control, indexing schemes

15 A complete problem for statistical zero knowledge

Amit Sahai, Salil Vadhan

March 2003 **Journal of the ACM (JACM)**, Volume 50 Issue 2

Full text available:  pdf(397.62 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present the first complete problem for SZK, the class of promise problems possessing statistical zero-knowledge (against an honest verifier). The problem, called Statistical Difference, is to decide whether two efficiently samplable distributions are either statistically close or far apart. This gives a new characterization of SZK that makes *no interaction or zero knowledge*. We propose the use of complete problems to unify and extend the study of statistical zero knowledge.

Keywords: Knowledge complexity, proof systems, statistical difference, zero knowledge

16 Session 6: Sequential composition of protocols without simultaneous termination

Yehuda Lindell, Anna Lysyanskaya, Tal Rabin

July 2002 **Proceedings of the twenty-first annual symposium on Principles of distributed computing**

Full text available:  pdf(1.07 MB)

Additional Information: [full citation](#), [abstract](#), [references](#)

The question of the composition of protocols is an important and heavily researched one. In this paper we consider the sequential composition of synchronous protocols that do not have simultaneous termination; i.e., the parties do not necessarily conclude a protocol execution in the same round. A problem arises because such protocols must be synchronous; therefore a second execution cannot follow from the first in a straightforward manner. An important open problem is to design a protocol with ...

17 Session 8B: On the composition of authenticated byzantine agreement

Yehuda Lindell, Anna Lysyanskaya, Tal Rabin

May 2002 **Proceedings of the thirty-fourth annual ACM symposium on Theory of computing**

Full text available:  pdf(289.09 KB)


Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A fundamental problem of distributed computing is that of simulating a (secure) broadcast channel, within the standard model. This problem is known as Byzantine Agreement and has been the focus of much research. Lindell et al. showed that in order to achieve Byzantine Agreement in the standard model, more than 2/3 of the participants must be honest. They further showed that by augmenting the network with a public-key infrastructure, it is possible to achieve Byzantine Agreement with a smaller number of honest participants.

18 Structural analysis of protocol specifications and generation of maximal fault coverage conformance test cases

Raymond E. Miller, Sanjoy Paul

October 1994 **IEEE/ACM Transactions on Networking (TON)**, Volume 2 Issue 5


Full text available:  pdf(1.55 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)

19 Optimal VLSI circuits for sorting

Richard Cole, Alan Siegel

October 1988 **Journal of the ACM (JACM)**, Volume 35 Issue 4

Full text available:  pdf(2.81 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This work describes a large number of constructions for sorting N integers in the range $[0, M - 1]$, for $N \leq M$ in the standard VLSI bit model. Among other results, we attain: VLSI sorter constructions that are within a constant size, for all M and almost all running times T . a ...

20 Design and analysis of a large-scale multicast output buffered ATM switch

H. Jonathan Chao, Byeong-Seog Choe

April 1995 **IEEE/ACM Transactions on Networking (TON)**, Volume 3 Issue 2

Full text available:  pdf (1.48 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

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21 [Tight bounds on the size of fault-tolerant merging and sorting networks with destructive faults](#)

Tom Leighton, Yuan Ma

August 1993 **Proceedings of the fifth annual ACM symposium on Parallel algorithms and architectures**

Full text available: pdf(1.09 MB)

Additional Information: [full citation](#), [references](#), [citings](#), [index terms](#)

22 [A module level simulation technique for systems composed of LSI's and MSI's](#)

Mario Tokoro, Masayuki Sato, Masayuki Ishigami, Eiji Tamura, Terunobu Ishimitsu, Hisashi Ohara

June 1978 **Proceedings of the 15th conference on Design automation**

Full text available: pdf(749.89 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citings](#), [index terms](#)

This paper describes newly developed techniques suitable for logic verification and fault simulation of digital s mainly composed of LSI's and MSI's. A simulator employing such techniques has been implemented, and has advantages over existing simulators.

23 [Software and hardware techniques for performance optimisation of embedded applications: Optimizing bandwidth with loop fusion](#)

Paul Marchal, José Ignacio Gómez, Francky Catthoor

September 2004 **Proceedings of the 2nd IEEE/ACM/IFIP international conference on Hardware/software system synthesis**

Full text available: pdf(191.36 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The memory bandwidth largely determines the performance and energy cost of embedded systems. At the co several techniques improve the memory bandwidth at the scope of a basic block, but often fail to exploit all. W technique to optimize the memory bandwidth across the boundaries of a basic block. Our technique incremen better use the available bandwidth. The resulting performance depends on how the data is assigned to the me memory layer. ...

Keywords: loop fusion, low power, memory bandwidth

24 [Concentrator modeling with pipelining arrivals compensation](#)

Patrick V. McGregor

April 1982 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the Computer Netwo Symposium**, Volume 11 Issue 1

Full text available: pdf(1.27 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A general model of Intelligent Communications Concentrating Devices (ICCD) is presented and analyzed for d performance with compensation for the pipelining effect of message arrivals extending over time. The results

indicate that, for the same trunk utilization, the trend towards buffered terminals with longer messages requires greater buffering in the ICCD. The nominal environment analyzed consisted of 10-40 medium speed terminals

25 Partial reconfigurable architectures: Real-time LUT-based network topologies for dynamic and partial F reconfiguration

Michael Huebner, Tobias Becker, Juergen Becker

September 2004 **Proceedings of the 17th symposium on Integrated circuits and system design**

Full text available:  pdf(356.70 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


Xilinx Virtex FPGAs offer the possibility of dynamic and partial run-time reconfiguration. If a system uses this designer has to take care, that no signal lines cross the border to other reconfigurable regions. Traditional modules on a dynamic and partial reconfigurable system use TBUF elements for connection and separation of blocks. While automatically placing and routing the design, the routing-tool sometimes uses signal lines which

Keywords: dynamic partial reconfiguration, virtex

26 High speed switch scheduling for local area networks

Thomas E. Anderson, Susan S. Owicki, James B. Saxe, Charles P. Thacker

September 1992 **ACM SIGPLAN Notices , Proceedings of the fifth international conference on Architectural programming languages and operating systems**, Volume 27 Issue 9

Full text available:  pdf(1.25 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

27 Session 8A: Non-interactive and reusable non-malleable commitment schemes

Ivan Damgard, Jens Groth

June 2003 **Proceedings of the thirty-fifth annual ACM symposium on Theory of computing**

Full text available:  pdf(333.10 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


We consider non-malleable (NM) and universally composable (UC) commitment schemes in the common reference model. We show how to construct non-interactive NM commitments that remain non-malleable even if the adversary can make an arbitrary number of commitments from honest players - rather than one, as in several previous schemes - to a strictly stronger security notion. Our construction is the first non-interactive scheme achieving this that can be mini ...

Keywords: commitment, non-malleability, one-way function, signature, universal composability

28 Perfectly one-way probabilistic hash functions (preliminary version)

Ran Canetti, Daniele Micciancio, Omer Reingold

May 1998 **Proceedings of the thirtieth annual ACM symposium on Theory of computing**


Full text available:  pdf(1.37 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

29 Survey of software tools for evaluating reliability, availability, and serviceability

Allen M. Johnson, Miroslaw Malek

September 1988 **ACM Computing Surveys (CSUR)**, Volume 20 Issue 4

Full text available:  pdf(3.79 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In computer design, it is essential to know the effectiveness of different design options in improving performance dependability. Various software tools have been created to evaluate these parameters, applying both analytic techniques, and this paper reviews those related primarily to reliability, availability, and serviceability. The parameters modeled, type of systems modeled, inputs, and outputs are given for each package. Examples of some of the modeling ...

30 Forwarding: Scaling internet routers using optics

Isaac Keslassy, Shang-Tse Chuang, Kyoungsik Yu, David Miller, Mark Horowitz, Olav Solgaard, Nick McKeown

August 2003 **Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications**

Full text available:  pdf(253.06 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Routers built around a single-stage crossbar and a centralized scheduler do not scale, and (in practice) do not provide throughput guarantees that network operators need to make efficient use of their expensive long-haul links. I consider how optics can be used to scale capacity and reduce power in a router. We start with the promising switch architecture proposed by C-S. Chang. This approach eliminates the scheduler, is scalable, and guarantees throughput for ...

Keywords: internet router, load-balancing, packet-switch

31 OOPSLA onward! track: Acceptability-oriented computing

Martin Rinard

December 2003 **ACM SIGPLAN Notices**, Volume 38 Issue 12

Full text available:  pdf(446.05 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We discuss a new approach to the construction of software systems. Instead of attempting to build a system free of errors as possible, the designer instead identifies key properties that the execution must satisfy to be acceptable. Together, these properties define the *acceptability envelope* of the system: the region that it must stay within to be acceptable. The developer then augments the system with a layered set of components, each of which enforces

Keywords: acceptability properties, monitoring, rectification, repair

32 Onward papers: Acceptability-oriented computing

Martin Rinard

October 2003 **Companion of the 18th annual ACM SIGPLAN conference on Object-oriented programming languages, and applications**

Full text available:  pdf(321.06 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We discuss a new approach to the construction of software systems. Instead of attempting to build a system free of errors as possible, the designer instead identifies key properties that the execution must satisfy to be acceptable. Together, these properties define the *acceptability envelope* of the system: the region that it must stay within to be acceptable. The developer then augments the system with a layered set of components, each of which enforces

Keywords: acceptability properties, monitoring, rectification, repair

33 State assignment using input/output functions

I. Pomeranz, K.-T. Cheng

July 1992 **Proceedings of the 29th ACM/IEEE conference on Design automation**

Full text available:  pdf(577.18 KB)

Additional Information: [full citation](#), [references](#), [index terms](#)

34 Distributed scheduling policies in networks of input-queued packet switches

Claus Bauer

July 2004 **ACM SIGCOMM Computer Communication Review**, Volume 34 Issue 3

Full text available:  pdf(340.28 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

Scheduling algorithms for input-queued packet switches have been widely researched. It has been shown that scheduling algorithms provide guarantees on stability and on average delay for single switches. However, we have demonstrated that most of these scheduling algorithms do not guarantee stability for networks of switches.

Most of the research that treats networks of switches proposes switching policies that require coordination among switches ...

35 High level and architectural synthesis: Round-robin arbiter design and generation

Eung S. Shin, Vincent J. Mooney, George F. Riley

October 2002 **Proceedings of the 15th international symposium on System Synthesis**

Full text available:  [pdf\(232.92 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this paper, we introduce a Round-robin Arbiter Generator (RAG) tool. The RAG tool can generate a design for a Round-robin Arbiter (BA). The BA is able to handle the exact number of bus masters for both on-chip and off-chip buses. RAG can generate a distributed and parallel hierarchical Switch Arbiter (SA). The first contribution of this paper is the automated generation of a round-robin token passing BA to reduce time spent on arbiter design. The generated arbiter is fair, fast, and hardware efficient.

Keywords: arbiter, distributed arbiter, round-robin token passing, synthesis, terabit switch

36 Group Key Management and Signatures: Provably authenticated group Diffie-Hellman key exchange

Emmanuel Bresson, Olivier Chevassut, David Pointcheval, Jean-Jacques Quisquater

November 2001 **Proceedings of the 8th ACM conference on Computer and Communications Security**

Full text available:  [pdf\(578.14 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Group Diffie-Hellman protocols for Authenticated Key Exchange (AKE) are designed to provide a pool of shared secret key which may later be used, for example, to achieve multicast message integrity. Over the years, several protocols have been offered. However, no formal treatment for this cryptographic problem has ever been suggested. In this paper, we propose a security model for this problem and use it to precisely define AKE (with "implicit" authentication) as the function that computes the shared secret key.

37 Checking equivalence for partial implementations

Christoph Scholl, Bernd Becker

June 2001 **Proceedings of the 38th conference on Design automation**

Full text available:  [pdf\(113.75 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We consider the problem of checking whether a partial implementation can (still) be extended to a complete design equivalent to a given full specification. Several algorithms trading off accuracy and computational resources are presented. Starting with a simple 0,1,KHarX-based simulation, which allows approximate solutions, but is not able to find a partial implementation, we consider more and more exact methods finally covering all errors detectable in the partial implementation.

38 An analysis model on nonblocking multirate broadcast networks

Yuan Yuan Yang

July 1994 **Proceedings of the 8th international conference on Supercomputing**

Full text available:  [pdf\(851.24 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Designing efficient interconnection networks with powerful connecting capability remains a key issue to parallel computing systems. Many progresses have been made in nonblocking broadcast networks which can realize a connection between any network input port and a set of output ports without any disturbance (that is, rearrange existing connections). However, all results obtained so far for broadcast networks are for single-rate networks.

Keywords: broadcast, interconnection networks, multirate traffic, nonblocking, packet switching

39 SCOQ: a fast packet switch with shared concentration and output queueing

David X. Chen, Jon W. Mark

February 1993 **IEEE/ACM Transactions on Networking (TON)**, Volume 1 Issue 1

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40 Toward a real-time Ada design methodology

Norman R. Howes

December 1990 **Proceedings of the conference on TRI-ADA '90**

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